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HU, RUI MENG				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/520,728

Applicant(s)

CRAWLEY, CASIMIR JOHAN

Examiner

RuiMeng Hu

Art Unit

2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2008.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 26 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-8 and 26 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 11/17/2008
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Claims 21-25 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 09/05/2008.

Response to Arguments

2. Applicant's arguments with respect to claims 1-8 and 26 have been considered but are moot in view of the new ground(s) of rejection.

Response to Amendment

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 1-6** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "**the** plurality of pre-defined frequency values".

There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. **Claims 1-3 and 5-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Zuqert et al. (US 6466832)** in view of **Sakamoto (US Patent 4940951)**.

Consider **claim 1**, Zuqert et al. disclose an apparatus, comprising: a radio frequency control configured for entering a user-desired channel frequency selected from a plurality of pre-defined frequency values (column 20 lines 1-11, via user interface the user initiated switching to a different channel, to establish a better quality channel, and such better quality channel is considered to be a user-desired channel); a reception circuit including a frequency synthesizer (figure 7, a receiver 24, frequency synthesizer 326) configured for receiving an incoming wireless audio file signal from a computer (column 10 lines 9-12); a decoder (DSP 270) for digitally demodulating an audio file signal (abstract) from said reception circuit; and a processor (DSP 270, figure 8, column 17 line 53-column 20 line 11, consider switching from frequency f1 to f2, the DSP is re-initialized for processing received signal on channel f2 (the new channel)) for re-initializing said decoder in response to a loss of a phase lock in said demodulating of said audio file signal and setting said frequency synthesizer (frequency synthesizer 326) at one of the plurality of pre-defined frequency values to re-establish said phase lock in

said demodulating of said audio file signal (re-establishing signal processing as switched to the new frequency) and sending the audio file to an audio system (figure 7, an audio system 44).

However Zuqert et al. fail to disclose a processor for polling the decoder for detecting a loss of phase lock condition in the demodulation of the audio file signal and re-initializing said decoder in response to the loss of a phase lock in said demodulating of said audio file signal.

In the same field of endeavor, Sakamoto disclose a receiver (figures 1 and 4, PLL 16, column 3 line 58-column 4 line 10, column 7 lines 18-61) for receiving an RF signal; a decoder (figure 4, QPSK demodulator 14 and PCM decoder 20) for demodulating said signal; and a processor (figure 4, column 3 lines 65-68, a detection circuit and the PLL circuit) configured to poll (continuously detecting for an unlocked state) said decoder for a loss of a phase lock loop in said demodulating of said signal to detect audio file signal loss between the receiver and a transmitter (an unlocked state to be detected when the signal loss in transmission) and re-initializing said decoder in response to the loss of a phase lock in said demodulating of said audio file signal (re-initializing phase lock of said QPSK demodulator 14) (Note: PCM is the standard form for digital audio).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection techniques taught by Sakamoto into the art of Zuqert et al. as to include PLL 16 of figure 1 or 4 for improving QPSK demodulation.

Consider **claim 2 as applied to claim 1**, Zuqert et al. as modified disclose wherein said plurality of frequencies comprises 900MHz range channel frequencies (Zuqert et al. column 16 lines 58-62).

Consider **claim 3 as applied to claim 2**, Zuqert et al. as modified disclose wherein said plurality of frequencies comprises 905 MHz, 911 MHz, 917 MHz and 923 MHz (Zuqert et al. column 16 lines 58-62).

Consider **claim 5 as applied to claim 1**, Zuqert et al. as modified fail to disclose wherein said demodulating said audio file signal provides a digital audio stream conforming to an I2S audio format.

However, official notice is taken that I2S is used for digital electronic devices (as a CD player) is well known in the art. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use I2S interface to correspond the existing digital audio stream, and output stereo.

Consider **claim 6 as applied to claim 1**, Zuqert et al. as modified disclose wherein said processor is a microprocessor (Zuqert et al. figure 7, DSP 270).

Consider **claim 7**, Zuqert et al. disclose a computer readable storage device having software instructions recorded thereon that, (column 16 lines 33-45, the processor containing software instructions adaptively controls operation of the receiver), when executed by a processor, performs the steps of: receiving a modulated audio file signal from a computer (figure 7, Abstract, column 10 lines 9-12); demodulating said audio file signal to a digital audio stream (figure 7, down-converters 38, base-band processors 40); detecting a loss of phase lock condition in the demodulation of the

audio file signal" (the deployment of the current channel) is known/detected to the processor of the receiver; re-initializing said demodulating in response to a loss of a phase lock in said demodulating of said audio file signal (DSP 270, figure 8, column 17 line 53-column 20 line 11, consider switching from frequency f1 to f2, the DSP is initialized for processing received signal on channel f2 (the new channel)); and setting said receiving of the modulated audio file signal at one of a plurality of channel frequencies to re-establish said phase lock in said demodulating of said audio file signal (re-establishing signal processing as switched to the new frequency); and sending the audio file signal to an audio system (figure 7, an audio system 44).

However Zuqert et al. fail to disclose detecting a loss of phase lock condition in the demodulation of the audio file signal; re-initializing said demodulating in response to the loss of a phase lock in said demodulating of said audio file signal.

In the same field of endeavor, Sakamoto disclose a receiver (figures 1 and 4, PLL 16, column 3 line 58-column 4 line 10, column 7 lines 18-61) for receiving an RF signal; a decoder (figure 4, QPSK demodulator 14 and PCM decoder 20) for demodulating said signal; and a processor (figure 4, column 3 lines 65-68, a detection circuit and the PLL circuit) configured to poll (continuously detecting for an unlocked state) said decoder for a loss of a phase lock loop in said demodulating of said signal to detect audio file signal loss between the receiver and a transmitter (an unlocked state to be detected when the signal loss in transmission) and re-initializing said demodulating in response to the loss of a phase lock in said demodulating of said audio file signal (re-

initializing phase lock of said QPSK demodulator 14) (Note: PCM is the standard form for digital audio).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection techniques taught by Sakamoto into the art of Zuqert et al. as to include PLL 16 of figure 1 or 4 for improving QPSK demodulation.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Zuqert et al. (US 6466832)** as modified by **Sakamoto (US Patent 4940951)** in view of **Bowles (US Patent 6389548)**.

Consider **claim 4 as applied to claim 1**, Zuqert et al. as modified fail to disclose wherein said decoder comprises an eight-to-fourteen modulation EFM digital decoder. This teaching is extremely well known in the art as disclosed by Bowles (US Patent 6389548), figure 3, EFM decoder 38. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include an EFM digital decoder to output CD audio.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Zuqert et al. (US 6466832)** as modified by **Sakamoto (US Patent 4940951)** in view of **Bowles (US Patent 6389548)**.

Consider **claim 8 as applied to claim 7**, Zuqert et al. as modified fail to disclose wherein said demodulating comprises a digital eight-to-fourteen modulation EFM digital decoding of said audio file signal. This teaching is well known in the art as disclosed by Bowles (US Patent 6389548), figure 3, EFM decoder 38. Therefore, it would have been

obvious to a person of ordinary skill in the art at the time the invention was made to include an EFM digital decoder to output CD audio.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Zuqert et al. (US 6466832)** as modified by **Sakamoto (US Patent 4940951)** in view of **Champion (US Pub. 2002/0072817)**.

Consider **claim 26 as applied to claim 1**, Zuqert et al. as modified fail to disclose a radio frequency remote control configured for entering a user-desired channel frequency selected from a plurality of pre-defined frequency values.

In the same field of endeavor, Champion discloses a wireless audio system comprising a radio frequency remote control configured for entering a user-desired channel frequency selected from a plurality of pre-defined frequency values (paragraphs 39 and 55).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection techniques taught by Champion into the art of Zuqert et al. as modified as to permit the user to initially select a user-desired channel.

Nonstatutory Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir.

1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. **Claims 1-8 and 26** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over **claims 1, 7 and 8 of copending Application No. 10516859** in view of **Zuqert et al. (US 6466832)**.

Consider **claim 7**, claim 7 claims a computer readable medium containing software instructions that, when executed by a processor, performs the steps of: receiving a modulated audio file signal; demodulating said audio file signal to a digital audio stream; detecting a loss of phase lock condition in the demodulation of the audio file signal; re-initializing said demodulating in response to a loss of a phase lock in said demodulating said audio file signal; and setting said receiving at one of a plurality of channel frequencies to establish said phase lock in said demodulating.

Claim 7 of the copending application discloses a computer readable medium containing software instructions that, when executed by a processor, perform the steps of: receiving a modulated audio file signal; demodulating said modulated audio file signal; polling said demodulating for a loss in a phase lock in said demodulating; and re-setting and reinitializing said demodulating in reply to said loss in said phase lock.

However, claim 7 of the copending application fails to disclose a frequency synthesizer for providing a plurality of frequencies.

In the same field of endeavor, Zuqert et al. disclose a computer readable medium containing software instructions that, (column 16 lines 33-45, the processor containing software instructions adaptively controls operation of the receiver), when executed by a processor, performs the steps of: receiving a modulated audio file signal from a computer (figure 7, Abstract, column 10 lines 9-12); demodulating said audio file signal to a digital audio stream (figure 7, down-converters 38, base-band processors 40); re-initializing said demodulating in response to signal quality of said demodulating said audio file signal (DSP 270, figure 8, column 17 line 53-column 20 line 11, consider switching from frequency f1 to f2 in response to received signal quality (error rate and signal strength), the DSP is initialized for processing received signal on channel f2 (the new channel)); and setting said receiving at one of a plurality of channel frequencies to establish receiving signal quality and said demodulating of said audio file signal (re-establishing signal processing as switched to the new frequency); and sending the audio file signal to an audio system (figure 7, an audio system 44).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the selection techniques taught by Zuqert et al. into the invention of the copending application as to include said frequency synthesizer for improving signal quality and output audio quality, wherein said frequency synthesizer generates a plurality of channel frequencies (902-928 MHz) to provide

channel frequency diversity to overcome poor signal quality (i.e. bit error rate) in short range radio frequency communication.

The above reasons also apply to claim 1.

This is a provisional obviousness-type double patenting rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed**

to: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RuiMeng Hu whose telephone number is 571-270-1105. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RuiMeng Hu
R.H./rh
December 18, 2008

/Edward Urban/

Supervisory Patent Examiner, Art Unit 2618

